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A SURVEY OF CUSTOM FARMWORK RATES CHARGED IN ONTARIO, 1987

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ECONOMICS INFORMATION

REPORT NO. 88-03

A SURVEY OF CUSTOM FARMWORK RATES CHARGED IN ONTARIO, 1987

by

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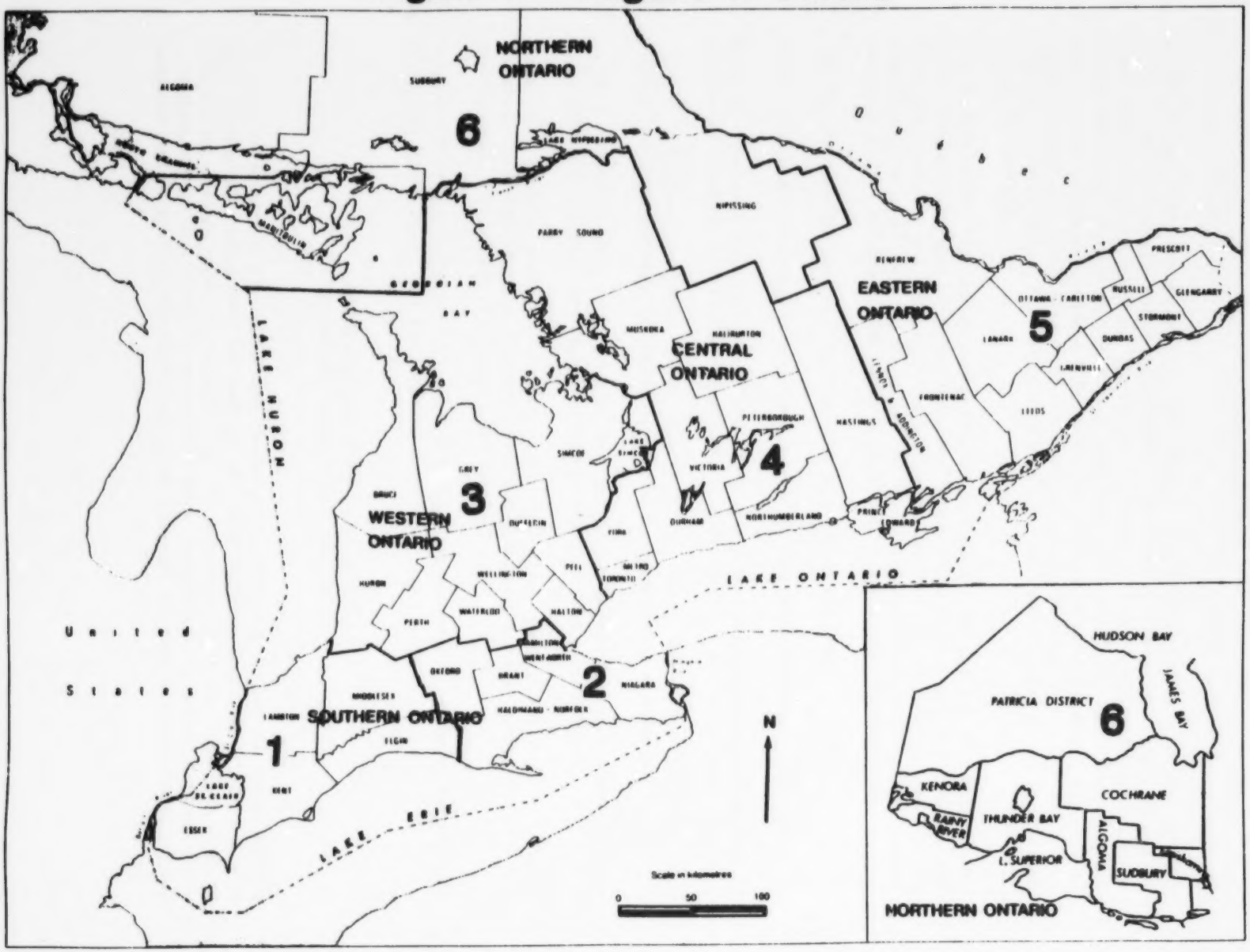
Figure 1:-- Regions of Ontario



FOREWORD

In November 1987, the Economics and Policy Coordination Branch of the Ontario Ministry of Agriculture and Food (OMAF) conducted a survey of custom farmwork rates charged during 1987 for six areas of Ontario. Over 1,000 mail-back survey forms were sent to custom operators, with over 600 being returned. Each custom operator was asked to volunteer information on custom services provided, schedule of rates charged for 1987, and equipment and labour provided. All information was treated confidentially. This report updates the 1986 survey of custom farm rates charged in Ontario.

The results of the 1987 survey are presented in Tables 1 through 11. For each of the survey areas the ranges of rates, the most frequently quoted rates, and the average rates are given for the most common operations performed. The information in this report may be used as a guide by custom operators and by farmers using custom services, BUT IT SHOULD NOT BE INTERPRETED AS RECOMMENDATIONS.

The custom work survey rates are reported by areas as follows.

Area 1 - Southern Ontario: Essex, Kent, Lambton, Middlesex, and Elgin counties.

Area 2 - Southern Ontario: Oxford and Brant counties; and regional municipalities of Haldimand-Norfolk, Niagara, and Hamilton-Wentworth.

Area 3 - Western Ontario: Huron, Perth, Bruce, Grey, Wellington, Dufferin, and Simcoe counties; and regional municipalities of Waterloo, Peel, and Halton.

Area 4 - Central Ontario: Victoria, Northumberland, Peterborough, Hastings, and Prince Edward counties; and regional municipalities of York and Durham.

Area 5 - Eastern Ontario: Lennox and Addington, Frontenac, Leeds, Lanark, Renfrew, Grenville, Dundas, Stormont, Russell, Prescott, and Glengarry counties; and the regional municipality of Ottawa-Carleton.

Area 6 - Northern Ontario: Algoma, Cochrane North and South, Kenora, Manitoulin, Nipissing, Rainy River, and Timiskaming districts.

OBSERVATIONS AND COMMENTS ON CUSTOM FARMWORK SERVICES

If today's farmers are to meet the challenge of changing cost-price relationships, they need good management as well as efficient farming operations. The services offered by custom work operators play an important part in Ontario's farming activities. With the trend toward increased mechanization, many farmers have overinvested in specialized machinery in an attempt to reduce labour requirements

and increase farm efficiency. By using custom work services, farmers can obtain the benefit of these specialized machines without having to buy them. Many cannot economically afford to own and operate such equipment for the amount of work on their farms. Custom work services also allow farmers to use their labour for other purposes.

Custom rates should cover all costs, such as interest on investment, depreciation, repairs, maintenance, housing, insurance, grease, oil, and fuel (where applicable), and labour; and leave a profit for the operator. The supply and demand for custom work services in any area will be reflected in the custom rates charged. Low rates may reflect the willingness of some farmers or machinery owners to do additional work to help offset the ownership costs of the machinery. They may also reflect good operating conditions such as large, level, obstruction-free fields and weed-free crops, which allow custom operators to work at normal or above normal speeds. High custom rates can indicate a shortage of operators willing to do custom work. They can also indicate poor weather conditions, awkward field shapes or sizes, and hard or stony soil conditions, which cause above normal breakages and increased costs to custom operators.

The data in this report show that custom rates vary -- in some cases quite widely. Some custom operators expressed concern over the increasing costs of machinery, machinery repairs and fuel. Others were concerned about the problems of adjusting their rates to meet increased costs at a time of changing farm prices. Custom operators who know the operating costs for their machines and the conditions they must work under can compare their own rates with the survey rate averages for their areas.

Most custom operators in Ontario perform their services without any type of written agreement. In some cases disputes have occurred about custom farmwork services provided. Custom hiring is a business arrangement and it is recommended that the terms of the arrangement be written into a formal agreement.

Some of the items to be considered in a formal contract are:

1. Operation(s) to be performed;
2. Timeliness of the operation;
3. Rate schedule to be used;
4. Managerial practices to be followed; and
5. Payment considerations.

Other considerations that could be included are: the responsibility in case of machine breakdown; the role of the farmer in assisting the custom operator; and arrangements to be made on notice of contract cancellation.

Farmers who are thinking about buying new machines can get an idea of the rates being charged in their area for the various services custom operators perform. In addition to rates charged, farmers should consider other factors in hiring custom work, such as the availability of custom operators in their area to do the required operation and the timeliness needed in doing the work.

CUSTOM TILLAGE AND PLANTING

Custom charges for plowing, discing, and planting were reported on a per-acre and/or per-hour basis. In all areas, plowing rates varied with the conditions under which custom operators worked. These conditions included extra heavy soils, size of field, obstruction, time of plowing (such as spring or fall) and the kinds of crop residues handled such as cornstalks and long-term alfalfa or other sod fields. In some areas, custom operators charged an hourly rate for some tillage operations.

Some custom operators made a distinction in the discing rate charged depending on field obstructions, soil texture, shape of field, and whether harrows or a cultipacker were trailed behind the discs. Extra charges were usually made when added equipment was pulled behind a tandem disc or field cultivator.

If preemergent sprays or fertilizers, or both were applied at planting time, custom operators usually charged more for applying the materials. Rates charged for custom planting varied widely in some areas because operators included these additional charges. In most cases, farmers delivered the materials -- seed, fertilizers, sprays, water -- to the field.

Custom operators who charged by the hour for planting corn, beans, and small grains felt this method was fair to both the farmers and themselves. Farmers can speed up the planting operation if they help handle the fertilizer and seed. By using an hourly basis, custom operators can more easily calculate planting charges when fields are irregular and exact acreages unknown.

CUSTOM WEED CONTROL AND FERTILIZER APPLICATIONS

Some custom operators brought their own water supply tanks while others insisted that water be readily available. In some areas, rates were reported for the application and immediate incorporation of preemergent sprays into the soil. The ready supply of water may have had a bearing on the rates charged.

In almost all cases, farmers supplied the materials for the weed spraying operations. To avoid misunderstanding, the rate and the material used should be clearly agreed upon by the farmer and the custom operator prior to the commencement of each spraying job.

In some areas, rates were provided for applying anhydrous fertilizers but not for other nitrogen fertilizers. Rates varied between and within areas depending on who supplied the applicator and delivered the anhydrous supply tanks to the farm.

CUSTOM HARVESTING BEANS, SMALL GRAINS, AND CORN

Rates for combining varied because of crop lodging, weed growth, muddy fields, and other poor operating conditions. Some custom operators who normally charged by the acre charged by the hour if they were hired to open fields or if muddy or other abnormal conditions prevailed.

Combining rates varied widely in some areas because some custom operator supplied additional equipment such as wagons, elevators, and augers. Custom corn picking rates were not obtained in all survey areas. These rates also varied depending on the equipment supplied.

Custom operators in some areas quoted hourly rates for combining. Because of the difference in combine sizes, the range in rates obtained was quite wide. Understandably, four-row and six-row combines harvest more acres per hour than two two-row combines. See Appendix Table 1 for some guidance as to the rates in acres per hour for different combine sizes. No rates were reported for those custom operations where an insufficient number of replies was received.

Trucking rates for grains varied depending on the distance from the farm to the elevator, the facilities for loading and unloading, and the time of year. Truckers sometimes charged less per bushel for handling grain when there were convenient farm loading facilities and during nonharvest or less busy periods. On the other hand, when loading facilities were poor and during the harvest rush, some truckers charged their standard rates while others charged more to compensate for slow loading and delivery.

Rates for drying operations varied among custom operators supplying this service because of the different drying systems and methods of charging. Therefore, custom drying charges were not reported because of the different ways of charging for this service.

The majority of custom farm drying operations are now using the drying charges as established by the Ontario Grain and Feed Dealers Association. These tables are in metric measure and show the number of kilograms of wet corn and soybeans required to yield the number of dry tonnes. Copies of these tables are shown in the Appendix of this report. The elevator charges per tonne for drying corn using natural gas at different moisture levels are provided in the tables. A table showing drying charges for corn using propane at different moisture levels is not available. The drying charges can be used as a guide in establishing custom rates for farm drying operations. These elevator drying charges do not include costs for handling grains, however, so an added cost per bushel may be made to cover handling charges.

CUSTOM SILO FILLING

Rates for silo filling of corn were most commonly figured on an hourly basis. Some operators still charged according to silo diameter and height. Yields are difficult to determine when charging by the ton, especially with larger or horizontal silos. There were insufficient replies from operators charging by ton, by diameter and by the acre to report rates for any area.

Custom operators prefer to charge by the hour because it is fairer to all concerned. They can go faster with a light crop and therefore charge less than a standard per-acre rate. If they have to travel a long distance from field to silo, the cost will be higher to the grower. It is also much easier to establish a total cost, especially when a bunker silo has been filled.

Rates for filling varied, depending on the combinations of number of persons, number and size of tractors, size and type of harvester, number and type of forage wagons, and blower with or without a recutter attachment. In this survey, it was found that two groups of silo filling equipment were common to all areas of Ontario. One group consisted of two tractors, two-row harvester, blower, wagons, and two persons. The other group consisted of one to three tractors, self-propelled harvester, blower wagons, and one to three persons. Depending on circumstances encountered, there were some variations within each grouping. For example, the number of persons supplied to power the equipment varied according to conditions and area. Therefore, for each group in each area, a wide range in charges per hour occurred. Tractors with higher horsepower, for example, are able to move more tonnage into the silo per hour than tractors with lower horsepower.

The custom silo filler may make some adjustments in his charges by allowing a rate per hour for each additional person supplied as well as for each tractor supplied in addition to his usual silo filling equipment.

CUSTOM HAY HARVESTING

In all areas, swathing consisted of cutting and conditioning hay in one operation. Custom rates for conventional baling included the twine and varied within each survey area depending on the extra equipment supplied. Some custom operators charged more per bale with a bale stooker or wagon pulled behind the baler. The custom baling of large round bales occurred in all survey areas except for Southern Ontario, Area 2.

The custom silo filling of haylage, unless some unusual conditions occur, would be the same as for custom silo filling of corn in most areas.

AERIAL OPERATIONS

Because of the few operators across Ontario offering custom aerial services, these services were not surveyed in 1987.

Table 1.--Rates for Custom Tillage, Planting, Weed Control, and Fertilizer Applications, Area 1, Southern Ontario, 1987

Operation	Number Reporting	Average	Most Frequent	Range
			- dollars per acre -	
TILLAGE				
Plowing:				
Moldboard	46	15.27	15.00	12.00 - 20.00
Discing	23	7.32	6.50	6.00 - 12.00
Cultivating	21	6.90	7.00	6.00 - 10.00
Soil saver	6	13.31	--	10.00 - 18.35
PLANTING				
Corn	24	9.54	10.00	7.00 - 13.00
Soybeans	16	8.34	8.00	6.00 - 10.00
Small grains	17	8.14	8.00	5.00 - 8.00
WEED CONTROL[a]				
Spraying	13	6.10	6.00	5.00 - 10.00
Incorporating[b]	8	9.69	8.00	8.00 - 12.00
Row cultivating	15	5.97	5.00	5.00 - 10.00
Rotary hoeing	5	5.80	5.00	4.00 - 7.00
FERTILIZING				
Anhydrous	4	8.12	8.00	7.00 - 9.50

[a] Spraying and incorporating does not include cost of any materials.

[b] Incorporating includes the application of the spray material and working the material into the ground.

Table 2.--Rates for Custom Harvesting Operations, Area 1, Southern Ontario, 1987

Operation	Number Reporting	Average	Most Frequent	Range
			- dollars -	
HARVESTING CORN				
Picking: per acre				
Commercial corn	4	28.75	--	20.00 - 33.00
Seed corn[a]	7	39.14	40.00	35.00 - 42.00
Combining per acre	71	29.94	30.00	25.00 - 35.00
Trucking, per bushel	20	.13	.15	.10 - .15
Trucking, per tonne	7	4.79	5.00	2.50 - 8.00
HARVESTING SMALL GRAINS AND SOYBEANS, PER ACRE				
Small grains:				
Swathing	7	8.39	8.00	7.00 - 9.75
Combining wheat	32	24.78	25.00	22.00 - 32.00
Combining other small grains	30	25.20	25.00	20.00 - 32.00
Combining soybeans	69	27.58	28.00	24.00 - 30.00
FORAGE OPERATIONS				
Hay:				
Swathing, per acre	14	10.43	10.00	8.00 - 18.00
Baling, per bale:				
Small rectangular	18	.33	.35	.25 - .45
Large round	9	6.44	6.00	5.00 - 8.00
Silo filling, per hour:[b]				
Group 1	5	110.00	--	75.00 - 140.00
Group 2	12	122.08	125.00	100.00 - 150.00
SNOW REMOVAL				
Per hour	10	51.00	--	30.00 - 80.00

[a] Most operators supply a dump wagon with the picker.

[b] The following combinations are used:

Group 1: 1 or 2 tractors, 2-row harvester, blower, wagons, and 2 persons.
Group 2: 1 or 2 tractors, self-propelled 2- to 4-row harvester, blower, wagons, and 2 persons.

NOTE: Adjustments can be made in silo filling operations by allowing a rate per hour for each additional person and tractor supplied.

Table 3.--Rates for Custom Tillage, Planting, Weed Control, and Fertilizer Applications, Area 2, Southern Ontario, 1987

Operation	Number Reporting	Average	Most Frequent	Range
			- dollars -	
TILLAGE[a]				
Plowing:				
Per acre	46	14.65	14.00	7.00 - 20.00
Per hour	5	56.00	50.00	45.00 - 75.00
Discing:				
Per acre	36	8.21	8.00	6.00 - 12.00
Cultivating:				
Per acre	19	8.18	8.00	6.00 - 15.00
Soil saver, per acre	16	13.19	14.00	11.00 - 18.00
PLANTING, PER ACRE:				
Corn	48	9.85	10.00	8.00 - 12.00
Soybeans	19	9.55	10.00	7.00 - 13.00
Small grains	20	9.08	10.00	6.00 - 12.00
WEED CONTROL[b]**, PER ACRE:**				
Spraying	28	5.79	6.00	4.50 - 10.00
Incorporating[c]	12	10.89	12.00	7.00 - 13.00
FERTILIZING, PER ACRE:				
Anhydrous	9	8.44	--	6.50 - 11.00

[a] Per hour rates for the tillage operations of plowing, discing and cultivating differ according to the size of tractor and equipment used to perform the operation.

[b] Spraying and incorporating does not include cost of any materials.

[c] Incorporating includes the application of the spray material and working the material into the ground

Table 4.-- Rates for Custom Harvesting Operations, Area 2, Southern Ontario, 1987

Operation	Number Reporting	Average	Most Frequent	Range
			- dollars -	
HARVESTING CORN				
Combining:				
Per acre	64	31.08	30.00	25.00 - 38.00
Per hour	13	96.69	100.00	50.00 - 130.00
Trucking:				
Per bushel	9	.16	.16	.14 - .18
Per tonne	15	5.89	5.00	5.00 - 7.00
HARVESTING SMALL GRAINS AND SOYBEANS				
Combining:				
Wheat, per acre	11	23.45	--	20.00 - 29.00
Other small grains,				
per acre	49	23.06	22.00	19.00 - 30.00
per hour	9	83.44	--	50.00 - 130.00
Soybeans, per acre	43	30.77	30.00	26.00 - 36.00
White beans, per acre	4	35.00	--	30.00 - 37.00
FORAGE OPERATIONS				
Hay:				
Swathing, per acre	11	10.23	10.00	7.00 - 12.00
Swathing, per hour	7	34.57	30.00	30.00 - 42.00
Baling, small rectangular per bale	16	.36	.35	.28 - .50
Silo filling, per hour:[a]				
Group 1	13	100.76	100.00	55.00 - 150.00
Group 2	10	136.00	120.00	125.00 - 175.00
SNOW REMOVAL, per hour				
Using blower	7	55.71	60.00	35.00 - 80.00
Using blade	5	39.50	45.00	27.50 - 50.00

[a] The following combinations are used:

Group 1: 2 tractors, 2-row harvester, blower, wagons, and 2 persons.
Group 2: 1 to 3 tractors, self-propelled 2- or 3-row harvester, blower, wagons, and 1 to 3 persons.

NOTE: Adjustments can be made in silo filling operations by allowing a rate per hour for each additional person and tractor supplied.

Table 5.--Rates for Custom Tillage, Planting, Weed Control, Fertilizer Applications, Area 3, Western Ontario, 1987

Operation	Number Reporting	Average	Most Frequent	Range
			- dollars -	
TILLAGE[a]				
Plowing, moldboard:				
Per acre	76	13.77	15.00	10.00 - 16.00
Per hour	4	58.75	--	25.00 - 120.00
Discing:				
Per acre	24	7.85	8.00	6.00 - 8.90
Per hour	3	38.33	--	15.00 - 50.00
Cultivating:				
Per acre	52	6.53	6.50	4.50 - 9.00
Soil saver, per acre	7	12.87	--	10.00 - 17.00
PLANTING, PER ACRE				
Corn	74	9.55	10.00	7.00 - 13.00
Soybeans	21	9.33	10.00	7.00 - 10.50
Small grains	47	8.14	8.00	5.00 - 12.00
WEED CONTROL[b], **PER ACRE**				
Spraying	54	4.95	5.00	3.00 - 8.00
Incorporating[c]	7	9.64	--	8.00 - 12.00
Row cultivating	4	6.19	--	5.00 - 7.50

[a] Per hour rates for tillage operations of plowing, discing and cultivating differ according to the size of tractor and equipment used to perform the operations.

[b] Spraying and incorporating does not include cost of any materials.

[c] Incorporating includes the application of the spray material and working the material into the ground.

Table 6.--Rates for Custom Harvesting Operations, Area 3, Western Ontario, 1987

Operation	Number Reporting	Average	Most Frequent	Range
			- dollars -	
HARVESTING CORN				
Combining:				
Per acre	92	30.99	30.00	24.00 - 38.00
Per hour	15	125.67	--	85.00 - 250.00
Trucking, per tonne	29	5.45	5.00	3.00 - 8.50
, per bushel	3	.13	--	.12 - .15
HARVESTING SMALL GRAINS AND SOYBEANS				
Swathing small grains:				
Per acre	32	9.15	8.00	8.00 - 12.00
Combining small grains:				
Per acre	88	24.04	25.00	16.00 - 35.00
Per hour	18	106.67	100.00	90.00 - 150.00
Combining wheat:				
Per acre	10	23.55	--	20.00 - 28.00
Combining soybeans:				
Per acre	59	29.09	30.00	24.00 - 35.00
Per hour	8	117.50	--	100.00 - 135.00
Harvest canola, per acre				
Swathing	3	10.67	11.00	10.00 - 11.00
HARVESTING WHITE BEANS, PER ACRE				
Pulling & windrowing	7	13.39	--	10.70 - 16.00
Combining, windrows	20	29.58	30.00	25.00 - 40.00
straight	7	31.36	--	26.00 - 40.00
FORAGE OPERATIONS				
Swathing hay:				
Per acre	39	10.58	10.00	7.00 - 14.00
Per hour	6	40.17	40.00	25.00 - 55.00
Baling hay, per bale:				
Small rectangular	20	.37	.40	.25 - .45
Large round	29	5.77	6.00	4.00 - 8.00
Silo filling, per hour:[a]				
Group 1	18	92.50	110.00	50.00 - 120.00
Group 2	12	137.08	135.00	85.00 - 220.00
SNOW REMOVAL, per hour				
Using blower	21	47.60	40.00	25.00 - 80.00

[a] The following combinations are used:

Group 1: 1 or 2 tractors, 2-row harvester, wagons, blower, and 2 persons.
Group 2: 1 to 3 tractors, self-propelled 2- or 3-row harvester, blower, wagons, and 1 to 3 persons.

NOTE: Adjustments can be made in silo filling operations by allowing a rate per hour for each additional person and tractor supplied.

Table 7.--Rates for Custom Tillage, Planting, Weed Control, Fertilizer Applications, Area 4, Central Ontario, 1987

Operation	Number Reporting	Average	Most Frequent	Range
			- dollars -	
TILLAGE[a]				
Plowing:				
Per acre	22	15.27	15.00	13.00 - 18.00
Per hour	16	43.94	--	20.00 - 60.00
Discing:				
Per acre	7	8.00	8.00	6.00 - 10.00
Per hour	6	49.17	--	20.00 - 65.00
Cultivating:				
Per acre	14	7.25	8.00	6.00 - 8.00
Per hour	11	44.09	50.00	20.00 - 60.00
PLANTING				
Corn, per acre	26	9.31	--	6.00 - 12.50
, per hour	3	37.00	--	35.00 - 40.00
Soybeans, per acre	4	10.63	--	9.00 - 13.00
Small grains, per acre ..	22	9.16	10.00	5.00 - 12.50
WEED CONTROL, PER ACRE[b]				
Spraying	22	5.66	5.00	5.00 - 7.00
Incorporating[c]	4	10.63	--	9.00 - 12.00

[a] Per hour rates for the tillage operations of plowing, discing, and cultivating differ according to the size of tractor and equipment used to perform the operations.

[b] Spraying and incorporating does not include any cost of materials.

[c] Incorporating included the application of the spray material and working the material into the ground.

Table 8.--Rates for Custom Harvesting Operations, Area 4, Central Ontario, 1987

Operation	Number Reporting	Average	Most Frequent	Range
			- dollars -	
HARVESTING CORN				
Combining				
Per acre	28	31.46	30.00	28.00 - 36.00
Per hour	8	102.88	95.00	74.00 - 180.00
Trucking, per tonne	10	6.45	6.00	4.50 - 8.50
HARVESTING SMALL GRAINS				
Combining grains:				
Per acre	31	25.55	25.00	20.00 - 30.00
Per hour	16	81.88	--	50.00 - 105.00
Combining soybeans:				
Per acre	13	30.81	30.00	27.00 - 35.00
Per hour	3	103.33	--	90.00 - 120.00
FORAGE OPERATIONS				
Swathing hay:				
Per acre	18	11.89	10.00	10.00 - 15.00
Per hour	8	42.75	--	30.00 - 85.00
Baling hay, per bale:				
Small rectangular	19	.37	.35	.26 - .50
Large round	25	5.85	6.00	4.00 - 10.00
Silo filling, per hour:[a]				
Group 1	19	82.79	100.00	50.00 - 110.00
Group 2	5	135.00	125.00	90.00 - 185.00
SNOW REMOVAL, per hour				
Using blower	12	47.50	50.00	30.00 - 60.00

[a] The following combinations are used:

Group 1: 1 or 2 tractors, 2-row harvester, wagons, blower, and 1 or 2 persons.

Group 2: 1 or 2 tractors, self-propelled 2- or 3-row harvester, wagons, blower, and 1 or 2 persons.

NOTE: Adjustments can be made in silo filling operations by allowing a rate per hour for each additional person and tractor supplied.

Table 9.--Rates for Custom Tillage, Planting, Weed Control, Fertilizer Applications, Area 5, Eastern Ontario, 1987

Operation	Number Reporting	Average	Most Frequent	Range
			- dollars -	
TILLAGE[a]				
Plowing:				
Per acre	18	15.78	15.00	9.00 - 24.00
Per hour	27	58.52	50.00	25.00 - 110.00
Discing:				
Per acre	9	9.22	10.00	6.00 - 15.00
Per hour	6	54.67	--	30.00 - 90.00
Cultivating:				
Per acre	6	7.33	8.00	5.00 - 9.00
Per hour	9	57.56	55.00	30.00 - 80.00
PLANTING				
Corn:				
Per acre	22	9.84	10.00	4.00 - 13.00
Per hour	7	43.57	30.00	20.00 - 75.00
Small grains:				
Per acre	7	7.50	8.00	5.00 - 9.00
Per hour	3	38.33	--	25.00 - 50.00
WEED CONTROL[b]				
Spraying:				
Per acre	23	5.73	6.00	4.00 - 8.00

[a] Per hour rates for the tillage operations of plowing, discing, and cultivating differ according to the size of tractor and equipment used to perform the operations.

[b] Spraying does not include cost of any materials.

Table 10.--Rates for Custom Harvesting Operations, Area 5, Eastern Ontario, 1987

Operation	Number Reporting	Average	Most Frequent	Range
		- dollars -		
HARVESTING CORN				
Picking, per hour	4	45.00	--	30.00 - 60.00
Combining:				
Per acre	14	29.79	30.00	25.00 - 35.00
Per hour	33	98.79	100.00	55.00 - 135.00
Trucking, per tonne	4	6.00	6.00	5.00 - 7.00
HARVESTING SMALL GRAINS AND SOYBEANS				
Combining small grains:				
Per acre	13	26.23	--	22.00 - 30.00
Per hour	44	76.73	80.00	28.00 - 120.00
Combining soybeans:				
Per acre	6	29.17	28.00	28.00 - 34.00
Per hour	3	103.33	--	90.00 - 115.00
FORAGE OPERATIONS				
Swathing:				
Per acre	3	9.00	9.00	9.00 - 9.00
Per hour	7	35.14	35.00	15.00 - 50.00
Baling hay, per bale:				
Small rectangular	7	.41	.40	.30 - .65
Large round bales	23	6.01	5.00	3.25 - 9.00
Silo filling, per hour:[a]				
Group 1	20	93.40	100.00	75.00 - 110.00
Group 2	9	128.89	125.00	100.00 - 170.00
SNOW REMOVAL, per hour				
Using blower	9	46.22	--	30.00 - 70.00
Using blade	7	42.14	40.00	30.00 - 70.00

[a] The following combinations are used:

Group 1: 1 or 2 tractors, 2-row harvester, wagons, blower, and 1 or 2 persons.
Group 2: 1 or 2 tractors, self-propelled 2- or 3-row harvester, blower, wagons, and 1 or 2 persons.

NOTE: Adjustments can be made in silo filling operations by allowing a rate per hour for each additional person and tractor supplied.

Table 11.--Rates for Custom Farmwork Operations, Area 6, Northern Ontario, 1987

Operation	Number Reporting	Average	Most Frequent	Range
			- dollars -	
TILLAGE				
Plowing:				
Per hour	11	38.45	--	23.00 - 60.00
Discing:				
Per hour	5	45.00	--	35.00 - 55.00
Cultivating:				
Per hour	4	35.50	--	22.00 - 55.00
WEED CONTROL				
Spraying, per acre[a]	4	4.63	5.00	4.00 - 5.00
HARVESTING SMALL GRAINS[b]				
Swathing:				
Per hour	8	35.25	--	25.00 - 45.00
Combining:				
Per acre	5	28.00	--	21.00 - 37.00
Per hour	27	67.63	70.00	30.00 - 110.00
FORAGE OPERATIONS				
Swathing hay, per acre ..	4	7.88	7.00	7.00 - 9.00
Swathing hay, per hour ..	12	30.96	25.00	25.00 - 45.00
Baling, large round bales, per bale	17	4.85	5.00	3.00 - 7.50

[a] Spraying does not include any cost of materials.

[b] Per hour rates for the tillage operations of plowing and discing and for harvesting operations differ according to the size of tractor and equipment, and size of combine used.

Appendix Table 1.--Rates of Accomplishing Farm Operations in Ontario, 1987

Operation	Number Reporting	Acres per Hour		
		Average	Most Frequent	Range
TILLAGE				
Plowing:				
60-85 HP	10	2.3	2	1.5 - 2.5
86-115 HP	13	3.4	3	2.5 - 4
116-135 HP	9	3.9	4	3 - 5
136-160 HP	13	4.6	5	3 - 6
161-200 HP	3	6.8	6.5	6.5 - 7.5
Discing:				
60-85 HP	6	5.3	5	3.5 - 8
86-115 HP	5	9.5	10	7.5 - 11
136-160 HP	6	10.0	11	7 - 14
Incorporating, 80-100 HP	5	6.7	7	4 - 9
PLANTING				
Corn:				
4-row	49	3.9	4	2.5 - 5
6-row	8	6.7	6	4.5 - 9
8-row	6	7.6	8	5.5 - 9
Small grains, 15 to 17 run	5	4.2	4.5	3 - 5
SUMMER OPERATIONS				
Spraying:				
Tractor & sprayer	28	7.8	7	5 - 12
SP sprayer	8	16.9	20	10 - 25
Row cultivate	3	8.3	8	7 - 10
Anhydrous application:				
100 HP	4	5.0	5	4
150 HP	3	8.7	8	8 - 10
HARVESTING SMALL GRAINS				
Swathing:				
10 ft.	9	3.0	3	2 - 4
12 ft.	5	3.6	3.5	3 - 5
Combining:				
10 ft.	10	2.7	2.5	2 - 3
11 ft.	4	2.8	2.5	2 - 4
12 ft.	6	3.6	4	2 - 5
13 ft.	21	4.0	4	2.5 - 9
14 ft.	11	5.1	4.5	3 - 10
15 ft. to 18 ft.	8	5.6	6	3 - 10

(continued on next page)

Appendix Table 1.--Rates of Accomplishing Farm Operations in Ontario, 1987 (concluded)

Operation	Number Reporting	Acres per Hour		
		Average	Most Frequent	Range
HARVESTING CORN & BEANS				
Combine corn:				
2-row.....	4	2.0	1.5	1.5 - 3
4-row.....	44	3.2	3.5	2.5 - 5
6-row.....	11	4.3	4	3 - 7
Corn picking:				
1-row.....	3	1.0	1	1 - 1.25
2-row.....	6	1.7	2	1 - 2
3-row.....	2	3.0	3	3
Combine soybeans:				
13 ft. & under.....	11	3.6	4	3 - 4
14 ft. & over.....	5	4.6	5	3 - 6
Drying, batch dried:				
Bushels per hour.....	3	115.0	115	100 - 125
HARVESTING FORAGES				
Swathing hay:				
Swather, 10 ft.....	9	3.1	3	2 - 4
Swather, 12 ft.....	5	3.6	4	3 - 5
Haybine, 9 ft.....	4	2.8	3	2 - 4
Silo filling:[a]				
Group 1.....	3	1.5	1.5	1 - 2
Group 2.....	19	2.1	2	1.5 - 4
Group 3.....	7	2.2	2	1.5 - 3
Group 4.....	4	3.1	3	2 - 4
Group 5.....	3	4.2	4	4 - 4.5
Baling, dropped on ground:				
Bales per hour (small rectangular).....	3	250.0	250	225 - 275

NOTE: Information based on survey conducted in Ontario in 1974.

[a] The width of the cutting bar was used to rate the combines, although it is realized that the size of the cleaning and the separation area are also important in rating the capacity of combines.

The following combinations were used:

Group 1: tractor drawn, 1-row harvester with wagons.
Group 2: tractor drawn, 2-row harvester with wagons.
Group 3: self-propelled, 2-row harvester with wagons.
Group 4: self-propelled, 3-row harvester with wagons.
Group 5: self-propelled or tractor drawn harvesters with trucks.

Appendix Table 2.--Corn Conversion Table - Wet Kilograms to Dry Tonnes Using Natural Gas, 1987

Moisture	Wet Corn (Divisor)	Drying Charge[a]	Moisture	Wet Corn (Divisor)	Drying Charge[a]	Moisture	Wet Corn (Divisor)	Drying Charge[a]
%	kg	$	%	kg	$	%	kg	$
15.5	1000.0	--						
15.6	1011.3	3.92	19.6	1061.6	8.40	23.6	1117.2	10.57
15.7	1012.5	4.11	19.7	1062.9	8.45	23.7	1118.7	10.63
15.8	1013.7	4.30	19.8	1064.3	8.50	23.8	1120.1	10.68
15.9	1014.9	4.49	19.9	1065.6	8.55	23.9	1121.6	10.70
16.0	1016.1	4.68	20.0	1066.9	8.78	24.0	1123.1	10.73
16.1	1017.3	4.87	20.1	1068.3	8.85	24.1	1124.6	10.76
16.2	1018.5	5.06	20.2	1069.6	8.90	24.2	1126.0	10.78
16.3	1019.8	5.25	20.3	1070.9	8.96	24.3	1127.5	10.85
16.4	1021.0	5.43	20.4	1072.3	9.02	24.4	1129.0	11.92
16.5	1022.2	5.61	20.5	1073.6	9.07	24.5	1130.5	11.99
16.6	1023.4	5.79	20.6	1075.0	9.12	24.6	1132.0	11.05
16.7	1024.7	5.97	20.7	1076.3	9.17	24.7	1133.5	11.10
16.8	1025.9	6.15	20.8	1077.7	9.22	24.8	1135.0	11.15
16.9	1027.1	6.34	20.9	1079.1	9.27	24.9	1136.5	11.20
17.0	1028.4	6.53	21.0	1080.4	9.32	25.0	1138.0	11.25
17.1	1029.6	6.72	21.1	1081.8	9.37	25.1	1139.6	11.30
17.2	1030.8	6.91	21.2	1083.2	9.42	25.2	1141.1	11.36
17.3	1032.1	7.10	21.3	1084.5	9.46	25.3	1142.6	11.42
17.4	1033.3	7.19	21.4	1085.9	9.50	25.4	1144.1	11.47
17.5	1034.6	7.28	21.5	1087.3	9.55	25.5	1145.7	11.52
17.6	1035.8	7.37	21.6	1088.7	9.60	25.6	1147.2	11.56
17.7	1037.1	7.46	21.7	1090.1	9.64	25.7	1148.8	11.60
17.8	1038.4	7.55	21.8	1091.5	9.69	25.8	1150.3	11.64
17.9	1039.6	7.59	21.9	1092.9	9.74	25.9	1151.9	11.68
18.0	1040.9	7.63	22.0	1094.3	9.79	26.0	1153.4	11.72
18.1	1042.2	7.67	22.1	1095.7	9.84	26.1	1155.0	11.76
18.2	1043.4	7.71	22.2	1097.1	9.89	26.2	1156.6	11.80
18.3	1044.7	7.75	22.3	1098.5	9.94	26.3	1158.1	11.84
18.4	1046.0	7.80	22.4	1099.9	9.98	26.4	1159.7	11.88
18.5	1047.3	7.85	22.5	1101.3	10.02	26.5	1161.3	11.93
18.6	1048.6	7.90	22.6	1102.8	10.06	26.6	1162.9	11.99
18.7	1049.9	7.95	22.7	1104.2	10.10	26.7	1164.4	12.05
18.8	1051.2	8.00	22.8	1105.6	10.15	26.8	1166.0	12.11
18.9	1052.4	8.05	22.9	1107.0	10.20	26.9	1167.6	12.17
19.0	1053.7	8.10	23.0	1108.5	10.25	27.0	1169.2	12.23
19.1	1055.0	8.15	23.1	1109.9	10.31	27.1	1170.8	12.29
19.2	1056.4	8.20	23.2	1111.4	10.36	27.2	1172.4	12.35
19.3	1057.7	8.25	23.3	1112.8	10.41	27.3	1174.1	12.41
19.4	1059.0	8.30	23.4	1114.3	10.46	27.4	1175.7	12.47
19.5	1060.3	8.35	23.5	1115.7	10.51	27.5	1177.3	12.53

Wet kilograms to dry tonnes chart showing number of kilograms of wet corn at varying degrees of moisture that are required to yield a dry tonne including allowance of 1 percent invisible loss. Charges for drying assessed per tonne of dry corn.

(continued on next page)

Appendix Table 2.--Corn Conversion Table - Wet Kilograms to Dry Tonnes Using Natural Gas, 1987 (concluded)

Moisture	Wet Corn (Divisor)	Drying Charge[a]	Moisture	Wet Corn (Divisor)	Drying Charge[a]	Moisture	Wet Corn (Divisor)	Drying Charge[a]
%	kg	$	%	kg	$	%	kg	$
27.6	1178.9	12.58	32.1	1257.0	14.62	36.6	1346.3	17.30
27.7	1180.5	12.63	32.2	1258.9	14.65	36.7	1348.4	17.48
27.8	1182.2	12.68	32.3	1260.8	14.68	36.8	1350.5	17.66
27.9	1183.8	12.73	32.4	1262.6	14.71	36.9	1352.7	17.83
28.0	1185.5	12.77	32.5	1264.5	14.73	37.0	1354.8	18.00
28.1	1187.1	12.80	32.6	1266.4	14.77	37.1	1357.0	18.17
28.2	1188.8	12.82	32.7	1268.3	14.81	37.2	1359.1	18.34
28.3	1190.4	12.84	32.8	1270.1	14.85	37.3	1361.3	18.51
28.4	1192.1	12.86	32.9	1272.0	14.89	37.4	1363.5	18.68
28.5	1193.8	12.92	33.0	1273.9	14.93	37.5	1365.7	18.86
28.6	1195.4	12.97	33.1	1275.8	14.97	37.6	1367.8	19.04
28.7	1197.1	13.02	33.2	1277.7	15.01	37.7	1370.0	19.22
28.8	1198.8	13.09	33.3	1279.7	15.05	37.8	1372.2	19.40
28.9	1200.5	13.16	33.4	1281.6	15.10	37.9	1374.5	19.58
29.0	1202.2	13.23	33.5	1283.5	15.16	38.0	1376.7	19.76
29.1	1203.9	13.29	33.6	1285.4	15.22	38.1	1378.9	19.93
29.2	1205.6	13.36	33.7	1287.4	15.26	38.2	1381.1	20.10
29.3	1207.3	13.43	33.8	1289.3	15.31	38.3	1383.4	20.26
29.4	1209.0	13.50	33.9	1291.3	15.36	38.4	1385.6	20.42
29.5	1210.7	13.57	34.0	1293.2	15.41	38.5	1387.9	20.58
29.6	1212.4	13.62	34.1	1295.2	15.46	38.6	1390.1	20.76
29.7	1214.1	13.66	34.2	1297.2	15.51	38.7	1392.4	20.94
29.8	1215.9	13.73	34.3	1299.1	15.55	38.8	1394.7	21.12
29.9	1217.6	13.79	34.4	1301.1	15.59	38.9	1396.9	21.30
30.0	1219.3	13.84	34.5	1303.1	15.63	39.0	1399.2	21.47
30.1	1221.1	13.89	34.6	1305.1	15.67	39.1	1401.5	21.64
30.2	1222.8	13.93	34.7	1307.1	15.71	39.2	1403.8	21.81
30.3	1224.6	13.97	34.8	1309.1	15.74	39.3	1406.2	21.99
30.4	1226.3	14.01	34.9	1311.1	15.79	39.4	1408.5	22.21
30.5	1228.1	14.05	35.0	1313.1	15.84	39.5	1410.8	22.43
30.6	1229.9	14.08	35.1	1315.2	15.90	39.6	1413.1	22.53
30.7	1231.7	14.11	35.2	1317.2	15.96	39.7	1415.5	22.64
30.8	1233.4	14.14	35.3	1319.2	16.01	39.8	1417.8	22.84
30.9	1235.2	14.17	35.4	1321.3	16.06	39.9	1420.2	23.07
31.0	1237.0	14.21	35.5	1323.3	16.12	40.0	1422.6	23.29
31.1	1238.8	14.25	35.6	1325.4	16.18	40.1	1424.9	23.51
31.2	1240.6	14.29	35.7	1327.4	16.24	40.2	1427.3	23.73
31.3	1242.4	14.33	35.8	1329.5	16.29	40.3	1429.7	23.95
31.4	1244.2	14.36	35.9	1331.6	16.34	40.4	1432.1	24.17
31.5	1246.0	14.39	36.0	1333.6	16.44	40.5	1434.5	24.39
31.6	1247.9	14.42	36.1	1335.7	16.54	40.6	1436.9	24.61
31.7	1249.7	14.45	36.2	1337.8	16.65	40.7	1439.3	24.83
31.8	1251.5	14.45	36.3	1339.9	16.76	40.8	1441.8	25.05
31.9	1253.4	14.53	36.4	1342.0	16.94	40.9	1444.2	25.27
32.0	1255.2	14.57	36.5	1344.1	17.12	41.0	1446.7	25.49

[a] Suggested charges based on average labour, overhead and fuel costs for commercial natural gas dryers, effective September 4, 1987.

Source: Ontario Grain and Feed Dealers Association.

Appendix Table 3.--Soybean Conversion Table - Wet Kilograms to Dry Tonnes, 1987 Using Natural Gas

Moisture	Wet Corn (Divisor)	Drying Charge[a]	Moisture	Wet Corn (Divisor)	Drying Charge[a]	Moisture	Wet Corn (Divisor)	Drying Charge[a]
%	kg	$	%	kg	$	%	kg	$
13.0	988.5							
13.1	989.6		17.1	1042.6	8.52	21.1	1095.4	15.86
13.2	990.8		17.2	1043.8	8.71	21.2	1096.8	16.03
13.3	991.9		17.3	1045.1	8.90	21.3	1098.2	16.20
13.4	993.1		17.4	1046.4	9.06	21.4	1099.6	16.35
13.5	994.2		17.5	1047.6	9.22	21.5	1101.0	16.50
13.6	995.4		17.6	1048.9	9.38	21.6	1102.4	16.65
13.7	996.5		17.7	1050.2	9.54	21.7	1103.8	16.80
13.8	997.7		17.8	1051.5	9.70	21.8	1105.2	16.95
13.9	998.8		17.9	1052.7	9.90	21.9	1106.7	17.15
14.0	1000.0		18.0	1054.0	10.10	22.0	1108.1	17.35
14.1	1006.2	2.90	18.1	1055.3	10.30	22.1	1109.5	17.55
14.2	1007.3	3.10	18.2	1056.6	10.50	22.2	1110.9	17.75
14.3	1008.5	3.30	18.3	1057.9	10.70	22.3	1112.4	17.95
14.4	1009.7	3.50	18.4	1059.2	10.87	22.4	1113.8	18.13
14.5	1010.9	3.70	18.5	1060.5	11.04	22.5	1115.2	18.31
14.6	1012.1	3.90	18.6	1061.8	11.21	22.6	1116.7	18.49
14.7	1013.2	4.10	18.7	1063.1	11.38	22.7	1118.1	18.67
14.8	1014.4	4.30	18.8	1064.4	11.55	22.8	1119.6	18.85
14.9	1015.6	4.50	18.9	1065.7	11.75	22.9	1121.0	19.07
15.0	1016.8	4.70	19.0	1067.0	11.95	23.0	1122.5	19.29
15.1	1018.0	4.90	19.1	1068.4	12.15	23.1	1123.9	19.51
15.2	1019.2	5.10	19.2	1069.7	12.35	23.2	1125.4	19.73
15.3	1020.4	5.30	19.3	1071.0	12.55	23.3	1126.9	19.95
15.4	1021.6	5.48	19.4	1072.3	12.73	23.4	1128.3	20.11
15.5	1022.8	5.66	19.5	1073.7	12.91	23.5	1129.8	20.27
15.6	1024.1	5.84	19.6	1075.0	13.09	23.6	1131.3	20.43
15.7	1025.3	6.02	19.7	1076.3	13.27	23.7	1132.8	20.59
15.8	1026.5	6.20	19.8	1077.7	13.45	23.8	1134.3	20.75
15.9	1027.7	6.36	19.9	1079.0	13.63	23.9	1135.7	20.93
16.0	1028.9	6.52	20.0	1080.4	13.81	24.0	1137.2	21.11
16.1	1030.2	6.68	20.1	1081.7	13.99	24.1	1138.7	21.29
16.2	1031.4	6.84	20.2	1083.1	14.17	24.2	1140.2	21.47
16.3	1032.6	7.00	20.3	1084.4	14.35	24.3	1141.7	21.65
16.4	1033.9	7.19	20.4	1085.8	14.55	24.4	1143.3	21.85
16.5	1035.1	7.38	20.5	1087.2	14.75	24.5	1144.8	22.05
16.6	1036.3	7.57	20.6	1088.5	14.95	24.6	1146.3	22.25
16.7	1037.6	7.76	20.7	1089.9	15.15	24.7	1147.8	22.45
16.8	1038.8	7.95	20.8	1091.3	15.35	24.8	1149.3	22.65
16.9	1040.1	8.14	20.9	1092.7	15.52	24.9	1150.9	22.83
17.0	1041.3	8.33	21.0	1094.1	15.69	25.0	1152.4	23.01

[a] Drying charges are negotiated between the Ontario Grain and Feed Dealers Association and the Soybean Growers' Marketing Board. Rates listed were effective from September 1, 1987.

Note: This chart shows the number of kilograms of soybeans at varying degrees of moisture that are required to yield a dry tonne at 14 percent moisture, including allowance of 1 percent invisible loss during drying. Charges for drying are assessed per tonne of dry soybeans.

Source: Ontario Grain and Feed Dealers Association.

Appendix Table 4.--Handling Allowance, Soybeans, 1987 Crop Year

$/tonne	$/tonne
000.00 - 150.00	7.90
150.01 - 200.00	8.50
200.01 - 250.00	9.30
250.01 - 300.00	9.90
300.01 - 350.00	10.80
350.01 - 400.00	11.20
400.01 - 450.00	11.60
450.01 - 500.00	12.00

NOTE: For each $50.00 per tonne selling price above $350.00 there is an additional 40 cents per tonne handling charge.

Rates effective September 1, 1987.

Source: Ontario Grain and Feed Dealers Association.

Appendix Table 5.--Grain Handling and Storage Charges, 1987 Crop Year

Commodity	Charge
Storage Schedule	¢/day/tonne
Corn	3.8
Soybeans	3.5
Wheat	3.5
Rye	3.7
Barley	4.3
Oats	5.7
Elevation Charges	$/tonne
In-Elevation Charge	1.25
Custom Handling Charge	10.00
Grade Discounts	
Corn	
Grades #1 & #2	Nil
Grade #3	.80
Grade #4	3.90
Grade #5	7.90
Soybeans	
Grades #1 & #2	Nil
Grade #3	2.00
Grade #4	5.00
Grade #5	10.00

Source: Ontario Grain & Feed Dealers Association.

In the case of wheat and soybeans, certain charges are established by law pursuant to the Farm Products Marketing Act. In the case of all other charges, the charges indicated are prepared as a guide only and are prepared by staff of the Association by the application of standard formulas to factual data respecting the input costs of those activities.

Rules to Apply

1. Charges for Drying, Prepaid Trucking, In-Elevation Charge and Accrued Storage are Due and Payable as of the 31st day of December of each year.

2. Storage Charges to be Computed on Dry Weight Basis.

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